

California Water Supply Outlook

June 2003

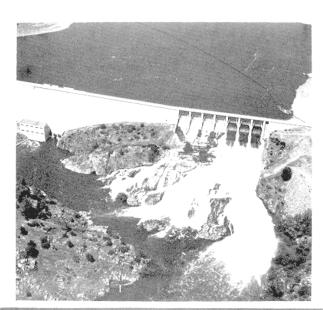
Compiled by the Division of Flood Management, Flood Operations and Hydrology Branches

Climate and Weather . . . Snowpack . . . Streamflow . . . Reservoir Storage











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The data in this publication are preliminary and may be subject to revision.

Water Supply Outlook used to be published on a semimonthly basis by the Hydrology and Flood Operation Office of the Division of Flood Management, and provided a statewide summary of current hydrologic conditions.

Due to the increasing cost of publishing and mailing, as well as a desire by the public for more timely and additional information, Water Supply Outlook will now only be available through the Internet. This product contains a series of links to html, text, and pdf format reports, which will allow more frequent updates of data and information. This is a "work-in-progress" and will be improved as funds and time allow.

For more details, contact:

Water Supply Outlook Division of Flood Management Department of Water Resource P.O. Box 219000 Sacramento, CA 95821-9000

Also of interest, the California Cooperative Snow Surveys, a unit of the Division of Flood Management, publishes Bulletin 120, *Water Conditions in California*:

http://cdec.water.ca.gov/snow/

This bulletin is published monthly by the Department of Water Resources from February 1 to May 1, with a final Fall Report at the end of the water year. Bulletin 120 provides forecasts of unimpaired runoff for California rivers, along with precipitation, snowpack, and reservoir storage data. To receive Bulletin 120, contact the Department of Water Resources Mailing List Coordinator:

Department of Water Resources The Resources Agency State of California P.O. Box 942836 Sacramento, CA 94236-0001 California Department of Water Resources
Division of Flood Management / Hydrology Branch

California Water Conditions Synopsis for May 2003

May began wetter and colder than average, and the snowpack reached its highest level this year on May 10. The accumulated snow water content peaked over a month later than average, in contrast to early peaks in many recent years. Snowmelt runoff began in earnest near mid-month, raising daily flow well above average in all mountain rivers. Many reservoirs in the north state filled to near capacity.

Precipitation during May was 170 percent of average statewide, with higher percentages in the southern half of the state. Precipitation during the month in the northern Sierra was 105 percent of average. The cumulative statewide precipitation since October is 115 percent of average compared to 80 percent one year ago.

Snowpack water content peaked at 95 percent of the historical April 1 average on May 10, and then dropped sharply to 30 percent at the end of the month. Sunny weather in late May accelerated the snowmelt. The largest remaining snow accumulations are at high elevations in the southern Cascade and central Sierra Nevada mountains. Last year the snowpack peaked at 95 percent of average on March 27 and melted very quickly.

Runoff during May was 130 percent of average statewide, with higher percentages in northern California. Weir flow into the Sacramento River bypass system ceased early in the month. Daily snowmelt runoff in southern Sierra rivers peaked near May 28 at levels around five times higher than the flow at the beginning of May, raising the total May runoff in these rivers to near average. Cumulative statewide runoff for the water year is 105 percent of average, compared to 80 percent at this time last year. There is a pronounced gradient from above average in the northwest to below average in the remainder of California.

Forecasts of April through July runoff were increased about 5 percent during May. The statewide forecasts total about 100 percent of average assuming normal weather for the remainder of the season. The runoff forecasts are highest in the far northern basins. Water year forecasts also total 100 percent of average overall. As of May 1, the forecasted Sacramento River Index (SRI) was 99 percent of average, the Sacramento Valley Index (40–30–30 SVI) year type was 'above normal', and the San Joaquin Valley Index (60–20–20 SJI) year type was 'below normal'.

Reservoir storage increased at greater than an average pace during May. Overall storage was about 105 percent of average on June 1, 10 percent more than last year. Many northern reservoirs filled to near capacity in May, including Trinity, Shasta, Oroville, New Bullards Bar, and Folsom.

Summary of Water Conditions in California

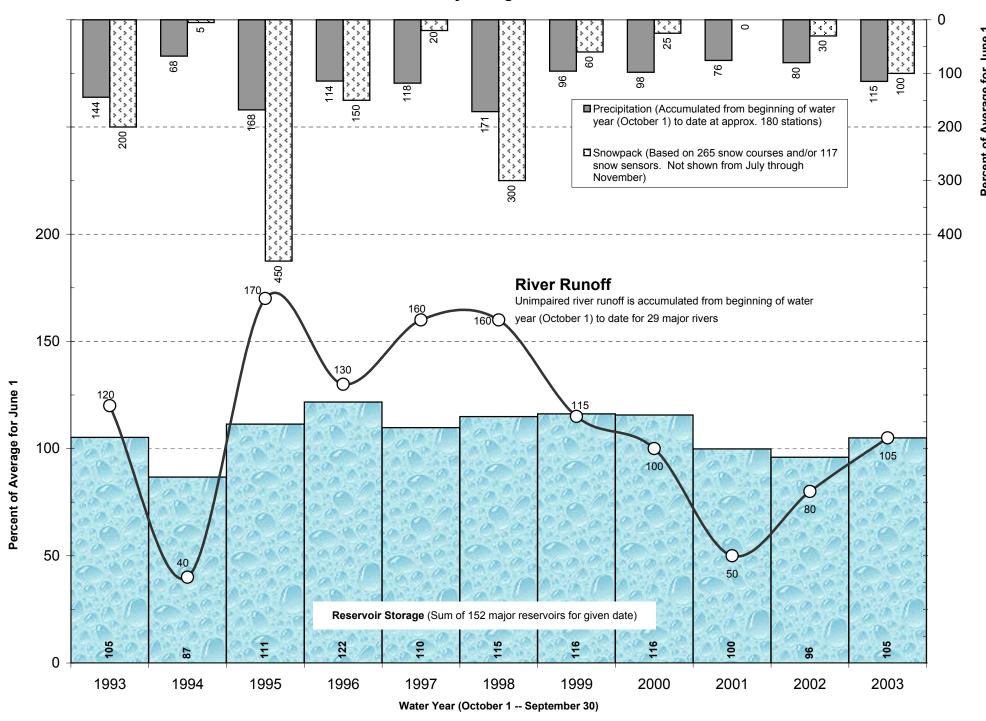
June 1, 2003

(percent of average)

	Precip	Snow	Reservoir		_	
	Oct 1-	Water	Storage	Oct 1-	Apr thru Jul	Water Year
Hydrologic Region	date	Content	May 31	date	Forecast	Forecast
North Coast	125	300	110	125		
San Francisco Bay	120		100	115		
Central Coast	105		100	85		
South Coast	110		90	45		
Sacramento River	115	125	115	100	115	100
San Joaquin River	95	85	100	80	95	80
Tulare Lake	110	50	105	85	80	80
North Lahontan	95	85	60	80		
South Lahontan	125	65	100	65		
Colorado River	75					
Statewide	115	100	105	105	100	100
		Last Ye	ear, Statewi	de:		
June 1, 2002	80	30	95	80	70	75

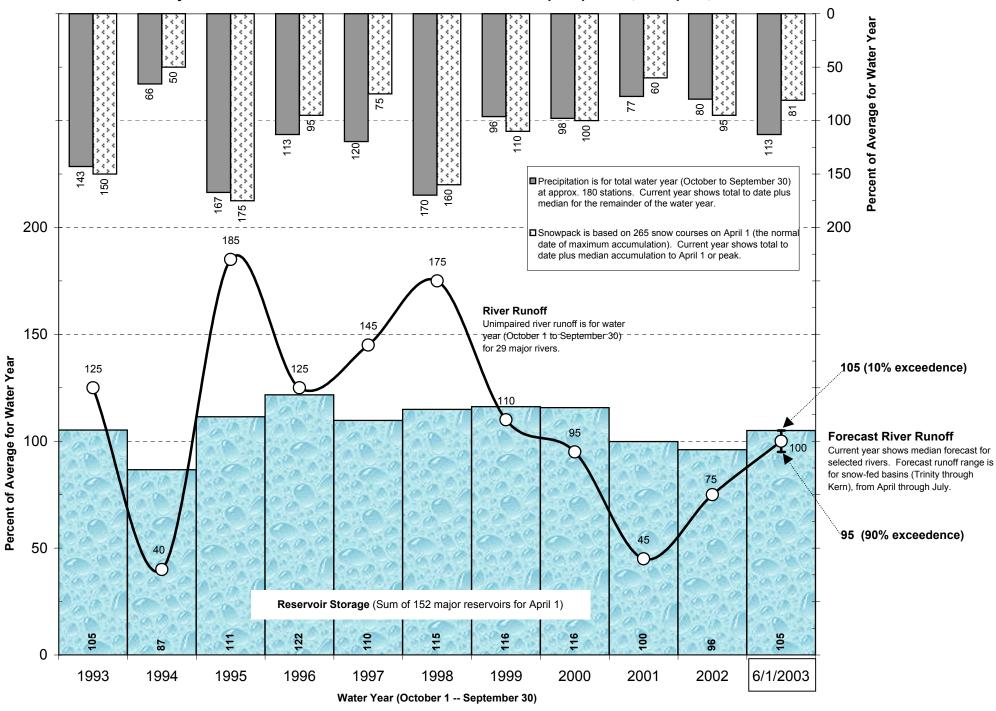


California Statewide Hydrologic Conditions as of June 1



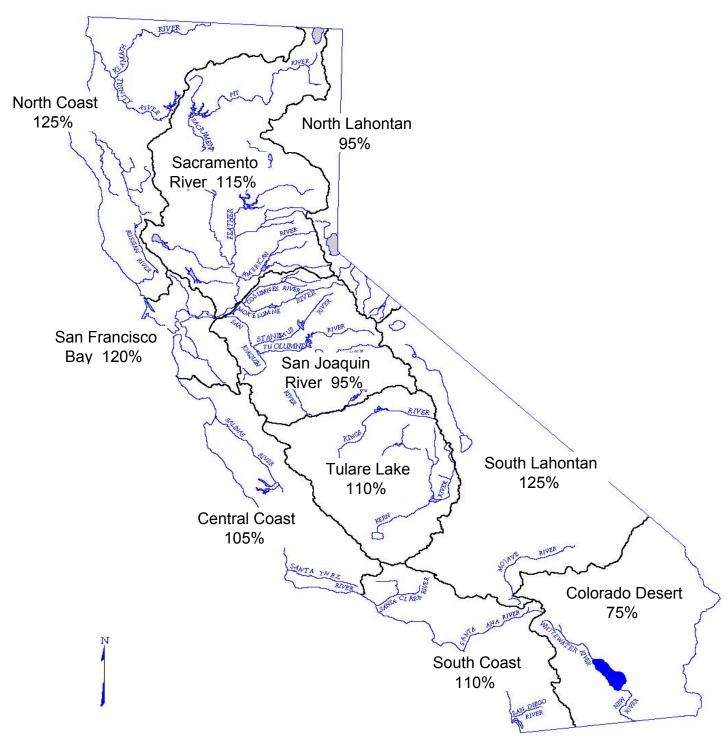
California Statewide Water Year Hydrologic Totals

Current water year shows conditions as of June 1 with median future precipitation, snowpack, and runoff

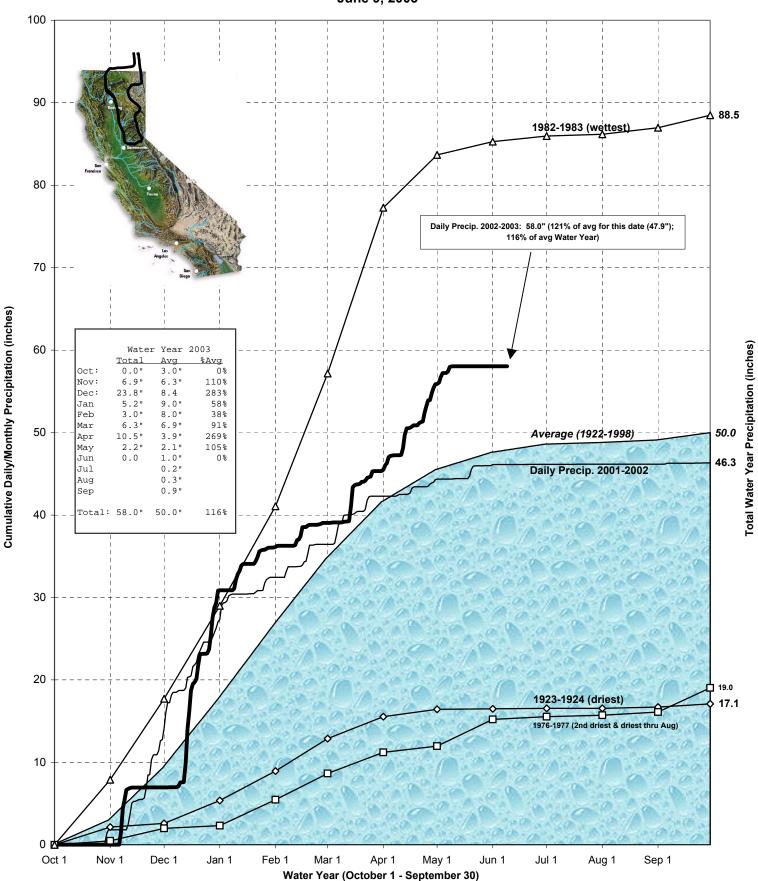


Department of Water Resources California Cooperative Snow Surveys Seasonal Precipitation in percent of average to date October 1, 2002 through May 31, 2003

Statewide 115%



Northern Sierra Precipitation: 8-Station Index* June 9, 2003

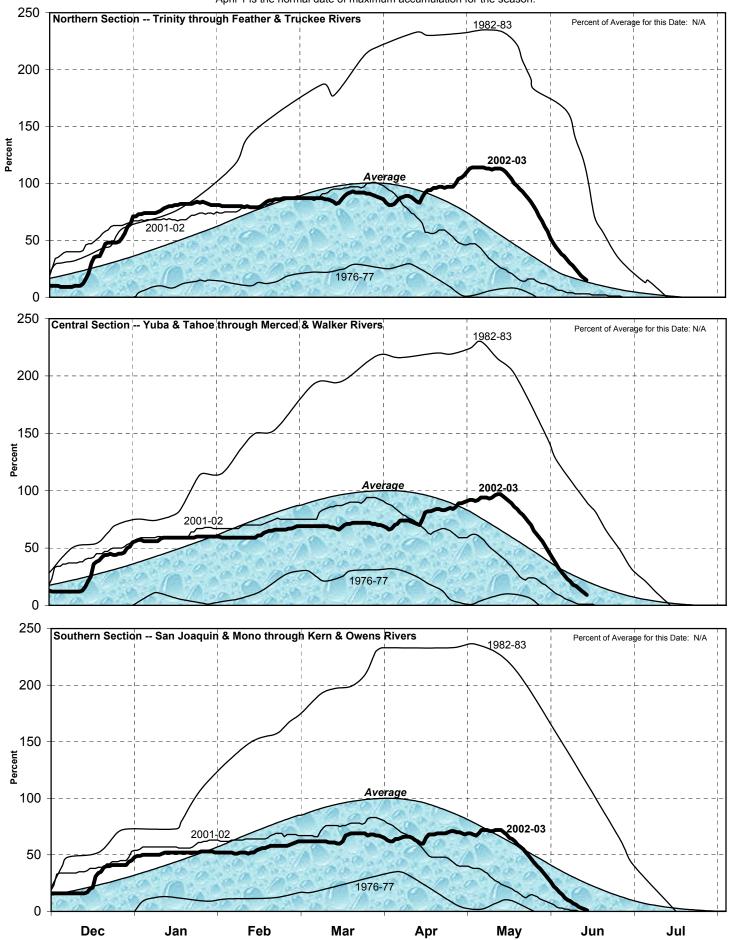


*The average of eight precipitation stations serves as a generalized wetness index for the Sacramento River hydrologic region. It provides a representative sample of the region's major watersheds: the upper Sacramento, Feather, Yuba, and American rivers, which produce inflow to some of California's largest reservoirs--the source of much of our water supply. The eight stations are: Blue Canyon, Brush Creek RS, Mineral, Mount Shasta City, Pacific House, Quincy RS, Shasta Dam, Sierraville RS. Official seasonal runoff forecasts are based on many more measurements than this index, including snowpack and prior streamflow. These seasonal forecasts are a much more accurate measure of water supply.

California Snow Water Content, June 11, 2003

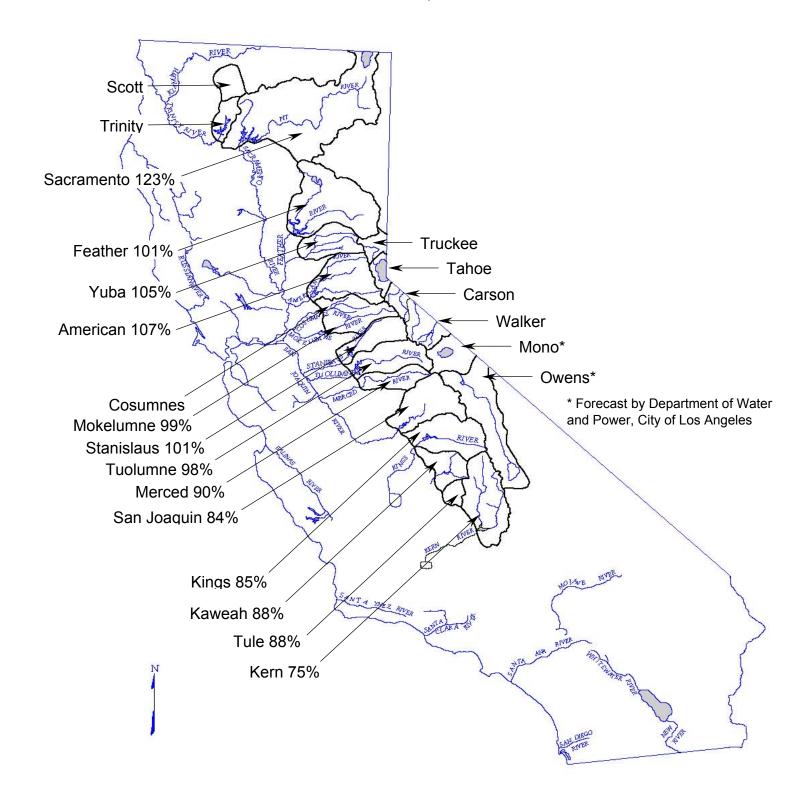
Percent of April 1 Average*

*April 1 is the normal date of maximum accumulation for the season.



Note: Water Year 1976-77 was the record minimum and Water Year 1982-83 was the record maximum.

Department of Water Resources California Cooperative Snow Surveys Forecast of April through July Unimpaired Runoff in percent of historical average June 10, 2003



Regional Reservoir Water Storage Summary

Sum of storage at major California reservoirs in (1,000 Acre-Feet)
As of May 31, 2003

	Number	Total	Historic	End-of-month May storage in calendar year:								
Region	of Res.	Capacity	Average	1977	1983	1998	1999	2000	2001	2002	2003	
North Coast	7	3,148	2,639	1,048	2,634	2,801	2,893	2,898	2,499	2,440	2,870	
SF Bay	14	546	388	199	489	498	471	457	382	353	385	
Central Coast	6	970	689	381	941	950	871	886	877	682	675	
South Coast	29	1,989	1,533	951	1,860	1,844	1,605	1,497	1,455	1,285	1,405	
Sacramento R	43	16,001	13,627	5,878	15,000	15,010	15,062	14,589	11,937	13,360	15,420	
San Joaquin R	34	11,439	8,245	3,078	8,953	9,207	9,449	9,759	8,888	8,233	8,404	
Tulare Lake	6	2,044	1,335	637	1,346	1,377	1,626	1,688	1,500	1,157	1,395	
North Lahontan	5	1,072	684	214	889	936	988	1,049	675	444	414	
South Lahontan	8	402	265	179	232	253	291	291	336	281	268	
State Total	152	37,614	29,408	12,569	32,348	32,879	33,260	33,118	28,552	28,239	31,241	
Percent of Averag	е			42%	109%	111%	113%	112%	97%	96%	106%	

Comments:

The 1983 through 2001 storage amounts include New Melones and Warm Springs Reservoirs which began operation after 1977, the new Spicer Meadows Reservoir on the Stanislaus River which began operation in 1989, and Los Vaqueros Reservoir which began operation in 1998.

The 1983 column shows storage in the wettest runoff year this century (1977 was the driest)

Reservoir	Cap	Hist	End-of-month May storage in calendar year:								
		Avg	1977	1983	1998	1999	2000	2001	2002	2003	
NORTH COAST:										NC	
Klamath River (Intersta	te)								L		
Upper Klamath Lake	873.3	477.1	476.2	506.7	510.1	452.7	474.5	434.9	440.3	464.3	
Shasta River											
L. Shastina (Dwinnell)	50.0	34.2	9.8	50.0	49.5	42.5	41.0	18.1	17.5	46.4	
Humboldt MWD											
Ruth Lake	51.8	49.0	27.2	52.5	48.1	44.3	47.0	46.8	47.7	46.3	
Russian River											
Lake Sonoma	381.0	222.2	0.0	0.0	254.0	242.1	242.9	236.8	237.4	243.5	
SAN FRANCISCO	BAY:									SFB	
Marin MWD									Į.	<u> </u>	
Soulajule Reservoir	10.6	9.3	0.0	10.4	10.5	10.2	9.7	8.9	9.9	10.5	
Nicasio Reservoir	22.4	19.4	0.3	22.4	22.4	22.4	21.3	20.0	20.3	21.8	
Kent Lake	32.9	26.1	0.5	32.2	32.9	31.7	32.7	23.0	31.7	32.8	
Alpine Lake	8.9	8.2	6.5	8.9	8.9	8.5	8.9	8.2	8.6	8.9	
SUM .	74.8	63.1	7.3	74.0	74.8	72.7	72.6	60.0	70.5	73.9	
East Bay MUD											
Pardee Reservoir (1)	198.0	189.7	60.9	191.8	199.4	181.7	194.0	191.7	191.4	190.3	
Camanche Res. (1)	417.1	279.7	119.4	266.0	288.1	290.3	341.2	260.9	280.8	356.9	
SUM	615.1	469.3	180.2	457.7	487.5	472.0	535.2	452.5	472.2	547.2	
San Francisco Cy & Co											
San Andreas Lake	19.0	15.8	16.9	17.6	18.6	16.5	18.6	19.1	18.0	18.8	
Crystal Springs Res.	58.4	49.5	45.6	56.3	51.3	51.0	48.2	43.3	51.0	57.8	
San Antonio Reservoir	50.5	36.6	19.0	46.6	50.9	50.6	45.9	41.6	48.8	49.4	
Calaveras Reservoir	96.9	73.0	29.8	96.7	97.5	97.1	88.7	72.6	31.0	39.8	
Hetch Hetchy Res. (1)	360.4	264.5	93.9	223.4	195.1	295.3	333.9	353.7	304.8	361.9	
Lake Eleanor (1)	26.1	20.7	3.0	26.0	25.7	25.7	25.1	26.5	26.3	25.7	
Cherry Lake (1)	268.0	196.4	123.6	226.7	152.2	257.6	268.8	263.7	264.4	258.8	
SUM	879.3	656.4	331.6	693.2	591.3	793.7	829.1	820.5	744.4	812.3	
CENTRAL COAST:										CC	
Salinas River											
Santa Margarita Lake	23.0	20.4	10.6	23.4	24.1	21.2	23.2	23.4	15.6	14.6	
Lake Nacimiento	377.9	217.6	42.4	324.3	371.9	316.2	311.1	297.9	196.4	234.0	
Lake San Antonio	330.0	237.0	161.9	339.1	313.0	302.1	312.7	315.7	274.2	256.5	
SUM	730.9	475.0	214.9	686.8	708.9	639.6	646.9	637.0	486.2	505.1	
Santa Ynez River											
Gibraltar Reservoir	8.2	7.5	6.0	8.9	7.6	7.1	7.1	7.2	2.8	7.0	
Lake Cachuma	190.5	171.7	129.8	204.7	192.6	184.2	191.8	193.1	157.3	130.6	
SUM	198.7	179.2	135.7	213.6	200.2	191.3	198.9	200.3	160.0	137.6	

Reservoir	Сар	Hist	End-of-month May storage in calendar year:								
		Avg	1977	1983	1998	1999	2000	2001	2002	2003	
SOUTH COAST:									Γ	SC	
Ventura River											
Lake Casitas	254.0	225.8	194.2	253.7	254.8	235.1	224.6	239.9	212.9	195.3	
Santa Ana River											
Big Bear Lake	73.0	61.6	37.2	72.7	72.6	66.5	61.3	55.1	43.8	40.6	
SWP,South											
Pyramid Lake	171.2	163.4	167.1	162.8	168.0	167.4	160.3	158.1	158.0	161.7	
Castaic Lake	323.7	279.9	86.5	313.5	320.9	296.6	310.7	286.2	291.8	318.3	
Silverwood Lake (2)	73.0	67.0	58.6	63.6	70.2	69.4	71.9	73.0	72.0	72.1	
Lake Perris	131.5	115.2	81.7	118.5	124.9	125.3	110.0	113.5	115.8	124.9	
SUM	699.4	625.5	393.9	658.3	684.0	658.6	652.9	630.8	637.6	677.0	
SACRAMENTO RIV	/ER:								L	SB	
CVP,North											
Trinity Lake (3)	2447.7	2157.2	925.9	2360.9	2265.2	2379.9	2384.1	2021.7	1983.7	2353.8	
Lake Shasta	4552.0	3947.4	1127.1	4526.8	4453.6	4304.5	4111.5	3782.5	4121.9	4436.0	
Whiskeytown Lake	241.1	236.5	237.4	238.3	237.2	237.8	237.3	239.1	238.5	238.5	
Folsom Lake	977.0	837.3	303.9	821.5	752.1	910.3	775.7	695.8	822.2	962.4	
SUM	8217.8	7178.5	2594.3	7947.5	7708.1	7832.5	7508.6	6739.1	7166.2	7990.7	
Orland Project											
East Park Reservoir	50.9	44.9	0.3	48.6	49.4	48.2	48.1	47.6	29.7	48.4	
Stony Gorge Reservoir	50.0	43.9	4.6	49.5	49.1	49.6	48.3	46.8	41.6	48.7	
SUM	100.9	88.8	4.9	98.1	98.6	97.8	96.5	94.4	71.3	97.1	
Cache Creek											
Indian Valley Res.	301.0	195.4	0.4	291.4	283.4	278.6	254.0	197.0	139.8	195.8	
Clear Lake	313.0	245.6	0.0	307.7	318.2	267.8	293.0	181.9	242.9	303.8	
SUM	614.0	441.0	0.4	599.1	601.6	546.4	547.0	378.9	382.8	499.5	
Solano Project											
Lake Berryessa	1600.0	1359.8	914.1	1605.9	1614.5	1565.6	1562.0	1430.0	1457.1	1596.3	
Feather River											
Lake Almanor	1143.0	940.3	663.3	959.0	1060.8	1078.5	1084.6	794.3	891.4	1016.9	
Lake Oroville	3537.6	3055.7	1353.4	3309.4	3301.9	3454.5	3127.7	2118.8	2639.5	3512.7	
SUM	4680.6	3996.0	2016.7	4268.4	4362.7	4533.1	4212.3	2913.2	3530.9	4529.6	
Yuba County WA Bullards Bar Reservoir	966.1	828.3	311.4	924.9	949.8	894.1	933.5	799.3	814.8	961.3	
PG and E		0_0.0	• • • • • • • • • • • • • • • • • • • •	0	0.0.0		000.0			000	
Lake Spaulding System	144.6	126.8	69.4	96.5	111.6	106.6	139.0	115.9	132.1	127.7	
Nevada ID											
Jackson Meadows Res	69.2	58.0	3.0	55.8	46.2	55.6	69.9	46.7	61.6	67.1	
French Lake	13.8	12.0	2.2	13.8	13.8	14.2	14.1	13.2	13.8	13.9	
Bowman Lake	68.5	59.5	36.4	60.8	54.8	57.1	67.4	49.4	52.9	68.0	
Scotts Flat Reservoir	48.5	45.6	16.7	48.4	48.5	48.3	45.1	44.3	47.4	48.5	
Rollins Reservoir	66.0	61.9	10.1	66.6	66.0	66.6	66.3	65.2	66.0	66.0	
SUM	266.0	237.0	68.4	245.4	229.4	241.8	262.8	218.8	241.7	263.6	

Reservoir	Сар	Hist End-of-month May storage in calendar year:									
ixeservon	Cap	Avg	1977	1983	1998	1999	2000	2001	2002	2003	
				1903	1990	1999	2000	2001	2002		
SACRAMENTO RIV	VER, co	ontinue	d:							SB	
South Sutter WD											
Camp Far West Res.	104.0	94.2	11.4	106.1	106.4	103.8	104.4	77.6	104.5	104.0	
Placer CO WA											
French Meadows Res	136.4	113.4	53.3	87.0	107.1	117.5	128.5	94.2	117.6	127.9	
Hell Hole Reservoir	207.6	171.6	99.8	160.6	156.2	186.1	194.1	108.6	151.8	204.5	
SUM	344.0	285.0	153.1	247.6	263.3	303.6	322.6	202.8	269.4	332.4	
Sacramento MUD											
Loon Lake	76.5	59.9	29.1	42.6	43.6	46.0	64.3	63.0	63.9	56.4	
Union Valley Reservoir	277.3	222.3	53.9	229.6	250.6	245.2	270.8	120.8	262.9	263.3	
Ice House Reservoir	46.0	37.5	13.3	28.0	27.9	33.7	44.5	34.4	42.5	39.7	
Slab Creek Reservoir	16.6	14.7	15.8	17.0	11.7	15.3	14.3	13.9	14.3	16.6	
SUM	416.4	334.5	112.0	317.2	333.8	340.3	393.9	232.1	383.5	376.1	
SAN JOAQUIN RIV	/ER:									SJB	
Contra Costa WD											
Los Vaqueros Res.	104.8	77.3			31.0	95.8	93.7	89.3	79.5	102.8	
Sly Park											
Jenkinson Lake	41.0	38.1	9.4	41.5	41.0	41.0	41.1	40.2	41.0	41.2	
Calaveras River											
New Hogan Reservoir	317.1	174.1	41.6	261.7	239.7	204.5	201.1	173.6	174.1	158.3	
<u>Tri-Dam</u>											
Donnell Reservoir	64.3	59.0	5.0	58.6	60.4	62.1	63.3	62.5	50.4	61.1	
Beardsley Lake	97.8	80.8	4.4	94.7	96.8	94.9	97.2	64.2	79.5	94.9	
Tulloch Reservoir	67.0	64.8	44.2	66.3	66.2	64.4	65.4	66.0	65.2	65.1	
SUM	229.1	204.6	53.6	219.6	223.4	221.3	225.9	192.7	195.0	221.1	
CVP,Stanislaus R											
New Melones Res. (4)	2420.0	1468.3	4.6	2028.3	2112.6	2020.5	1984.0	1799.0	1547.0	1459.4	
Tuolumne River											
New Don Pedro Res.	2030.0	1500.3	525.4	1470.2	1695.9	1795.1	1910.0	1650.0	1573.0	1675.7	
Merced River											
Lake McClure	1024.6	718.5	209.5	774.8	728.1	864.3	933.8	771.5	594.5	600.6	
<u>Up. San Joaquin R</u>											
Florence Lake	64.6	31.0	20.4	58.3	1.0	38.1	48.1	60.0	46.8	40.1	
Lake Thomas A. Edisor	125.0	57.4	8.3	50.7	17.6	83.2	82.0	76.5	74.2	79.6	
Mammoth Pool Res.	122.7	103.8	91.8	125.4	121.9	120.9	121.5	119.6	100.7	122.7	
Huntington Lake	89.8	69.2	86.4	33.3	39.9	83.6	87.5	88.1	88.3	87.7	
Shaver Lake Bass Lake	135.4	80.0 41.7	32.9	68.7	82.9	112.0	114.9	133.7	117.5	96.3 45.0	
Redinger Lake	45.4 35.0	24.5	23.2 19.6	41.2 25.6	44.7 25.8	44.7 24.5	42.9 24.6	43.9 25.7	44.3 24.1	45.0 24.5	
_											
SUM	617.9	407.5	282.5	403.1	333.8	507.1	521.6	547.6	495.9	495.8	
Friant	F00.0	404.0	040.4	040.4	200.0	F00.4	544 5	F04 =	F40.4	400.4	
Millerton Lake	520.0	401.0	213.1	249.1	326.6	522.1	511.5	504.7	512.4	490.4	
DWR & USBR	074.0	700.5	E4E 0	000.5	000.0	000 -	700 -	077.5	050.5	7446	
San Luis Res. (CVP)	971.0	789.0	515.8	962.9	966.8	633.5	700.5	677.3	658.2	744.0	
San Luis Res. (SWP)	1062.0	917.0	653.4	1059.7	1061.9	863.3	762.1	815.8	744.8	684.3	
SUM	2033.0	1706.1	1169.2	2022.6	2028.7	1496.8	1462.6	1493.1	1403.0	1428.3	

Reservoir	Сар	Hist	Hist End-of-month May storage in calendar year:								
		Avg	1977	1983	1998	1999	2000	2001	2002	2003	
TULARE LAKE:										TLB	
Kings River											
Courtright Reservoir	123.2	77.9	1.1	41.5	43.4	117.8	119.2	113.9	107.5	113.5	
Wishon Reservoir	128.3	89.2	110.6	69.3	37.0	110.0	113.3	102.1	82.3	74.7	
Pine Flat Reservoir	1000.0	720.5	390.1	594.5	688.8	888.1	954.4	855.2	616.8	743.9	
SUM	1251.5	887.6	501.8	705.3	769.2	1115.9	1186.8	1071.2	806.6	932.1	
Kaweah River											
Lake Kaweah	143.0	112.4	49.7	74.8	71.8	136.1	142.8	139.6	137.3	119.9	
Tule River											
Lake Success	82.3	56.7	13.4	80.6	81.5	46.6	73.3	45.8	43.3	73.3	
Kern River											
Lake Isabella	568.0	279.0	72.1	485.7	455.4	327.5	285.7	243.6	170.7	270.3	
NORTH LAHONTA	AN:									NLB	
Truckee River											
Lake Tahoe	732.0	456.5	132.0	575.0	653.6	673.3	733.5	429.5	240.6	198.0	
Prosser Creek Res.	29.8	17.7	4.6	11.0	16.8	21.4	28.0	12.3	20.3	26.4	
Stampede Reservoir	226.5	150.4	34.0	254.5	212.6	220.0	217.4	187.0	133.5	139.7	
Boca Reservoir	41.1	33.0	33.4	31.2	32.0	35.8	38.8	21.2	35.5	29.9	
SUM	1029.4	657.5	204.0	871.7	915.0	950.4	1017.7	650.0	429.9	394.0	
East Walker River											
Bridgeport Reservoir	42.6	26.7	10.7	17.7	21.7	37.8	31.5	25.1	14.9	20.6	
SOUTH LAHONTA	AN:									SLB	
Los Angeles DWP											
Grant Lake	47.6	27.8	7.6	22.3	45.0	42.1	39.8	43.6	31.5	18.6	
Lake Crowley	183.2	122.0	60.4	93.8	105.5	127.9	125.4	151.5	127.9	126.7	
Tinemaha Reservoir	16.3	2.7	2.8	5.2	2.0	4.0		2.8	2.6	3.1	
Haiwee Reservoir	41.2	32.5	38.1	40.1	26.3	30.0	31.1	36.4	31.4	28.9	
SUM	288.3	185.0	108.8	161.3	178.8	204.0	199.8	234.3	193.4	177.2	
COLORADO RIVER:										CDI	
Colorado River									,		
Lake Powell	25002.0	20402.5	18340.0	24246.0	22645.3	21561.2	21044.8	19797.0	16536.0	12756.5	
Lake Mead	26159.0	20359.0	20050.0	24750.0	24630.0	24001.0	24047.0	21127.0	17915.0	15893.0	
Lake Mohave	1810.0	1725.6	1747.0	1632.6	1738.4	1707.3	1746.9	1679.7	1736.1	1715.1	
Lake Havasu	619.4	602.7	609.2	609.4	615.6	600.5	593.1	573.2	595.0	596.1	
SUM	53590.4	43089.8	40746.2	51238.0	49629.3	47870.0	47431.8	43176.9	36782.1	30960.7	

Footnotes:

- 1) Located in Sierra Nevada (San Joaquin Basin drainage)
- 2) Located in South Lahontan Basin drainage
- 3) Located in North Coast drainage
- 4) 1977 value is for old Melones Reservoir

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